

D - R marks

Claims 15 and 28 have been amended based on specification page 4. Claims 16-27 and 29-40 remain in this application.

Claim Rejections - 35 USC §103

The Examiner rejects the claims 15, 16, 18-22, 24-29, 31-35, and 37-40 as being unpatentable over Howard Jr. (US patent 5355088) in view of the web page <http://www-fp.mcs.anl.gov/etc/Guide/OptWeb/continuous/unconstrained/quasi.html>. Applicant respectfully disagrees since it appears that Howard Jr. relates to a method for determining parameters of a formation that significantly differs from the method of the invention.

Actually, Howard Jr. describes a system which receives output signals from a well tool adapted to be disposed in a wellbore and, after appropriate processing of the signals, generates a set of invasion parameters which are used for plotting a resistivity log on an output record medium. According to said system (see col.7 l.61 to col.8, l.7), the appropriate processing comprises two distinct correction steps: the first one relates to the shoulder bed effect correction whereas the second one relates to the invasion effect correction. This drastically differs from the method of the invention wherein it is a special object to perform said correction simultaneously over all the layers of the formations (see page 2 and 4), i.e. to perform the shoulder bed effect and the invasion effect correction simultaneously. Actually, when all the layers are corrected simultaneously (different depths and different widths of investigation), as a matter of fact, both the shoulder bed effect and the invasion effect have to be considered at the same time. This leads to a correction method that provides formation parameters much more closer to the reality than the method of the prior art.

As stated in the specification of the invention (page 2), the methods of the prior art are based on the assumption that the shoulder bed effect and the invasion effect are independent, which is false considering what happens in reality in the formations. When proceeding to said corrections one after the other, a significant error is introduced in the resulting formation parameters. The systems that is described in Howard Jr. clearly owns to these type of methods, which renders this document inappropriate against the teaching of the method of the invention.

The cited web page discloses a mathematical method that is used in the method of the invention for the simplest reason that, due to simultaneous corrections, the number of data to process is significantly increased compared to the methods of the invention. It is however clear that starting


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from Howard Jr., the man skilled in the art would not have been led to the method of the invention. On the contrary, starting from Howard Jr., the man skilled in the art would have been led to methods that the method of the invention particularly intends to avoid. The disclosure of the cited web page is therefore useless.

None of the cited prior art discloses a method of determining parameters of formations comprising multiple layers comprising the step of using an inversion method implemented on pseudo-parameters that are homogeneous and that are determined from the formation parameters taken simultaneously over all the layers of formations. The only place where such technical features are disclosed is in the present application.

The Applicant believes that amendments to the claims deal with all outstanding matters, raise no new matter issues and place the application in order for allowance. Favorable reconsideration on the basis of these amendments and remarks is requested. In the event that the Examiner intends to maintain any rejection, it is requested that these amendments be entered in order to place the application in better state for appeal.

Respectfully submitted

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